Delphinol®

The Amazing Antioxidant Extract of The Chilean Maqui Berry
Delphinol Extract

✓ Inflammation,
✓ Immunity
✓ Glucose Metabolism
✓ Prevent oxidation damage
Chilean Organic Maqui Berry

The highest anti-oxidant fruit on the planet

*Certified Organic by CERES (Certification of Environmental Standards GmbH)
Delphinol EXTRACT

The Essence of the most Powerful Superfruit
Maqui Berry is Harvested Wild in Pristine Southern Chile
Maqui Berry

The highest anti-oxidant fruit on the planet

* Certified Organic by CERES (Certification of Environmental Standards GmbH)
Anthocyanins are antioxidant flavonoids that protect many body systems and have some of the strongest physiological effects of any plant compounds.

Anthocyanins are produced by plants for self-protection against, sun, irradiation, diseases, and biological enemies.

The harsh climate of central and southern Chile, together with recent high solar radiation (50% increase in the last 30 years) may have increased the anthocyanins in the fruits and berries that are grown in that region. Especially Maqui.
Maqui’s Traditional Mapuche Indian Usage

The Mapuche Indian tribe is the only tribe in American Continents that were not conquered by any European Countries. According to the Conquistadors the Mapuche warriors ate very little solid food and drink a fermented beverage made from maqui berry several times a day, which may have contributed to the extraordinary strength and stamina that the warriors exhibited.

The Mapuche Indians have used Maqui’s berry leaves, stems, fruits, and wine medicinally for thousands of years.
Raw Maqui has the highest anti-oxidant content of any fruit

- 2-3 times higher than Acai & Goji berry (currently considered as the highest ORAC value superfruit),
- more than 3 times higher than mangosteen,
- 8 –10 times higher than pomegranate,
- 50 times more than a glass of red wine.
Raw Maqui berry, is one of the most power-packed with anthocyanins of all the fruits and berries for supplemental consumption.

Anthocyanins are produced by plants for self-protection against sun, irradiation, diseases and biological enemies; to thrive in the harsh climate of central and southern Chile, (increased solar radiation) necessitates maqui’s abundant anthocyanin production.
Research Confirms Benefits of Delphinol

- boosts the immune system
- helps to maintain healthy inflammatory response
- helps control blood sugar and cholesterol levels
- helps prevent oxidation and related damage
ORAC as metric of antioxidants

**ORAC**: The ORAC test, measures a food’s antioxidant ability to neutralize free radicals and potentially mitigate health imbalances. The power of each fruit or vegetable is measured in Trolox equivalents (μ mole TE/g) per gram.

**Nutritionist recommend** at least 3,000 ORAC per day and more if under any of the various stressors most of us face each day. Most individuals get only 1,200 ORAC units or less per day.
ORAC ranking superfruits (umolTE/g fruit)
Anthocyanins superfruits ranking (mg/g) fruit

- Cranberry
- Boysenberry
- Acai
- Blueberry
- Bilberry
- Black Raspberry
- Maqui

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Maqui Berry has the highest Total Antioxidant Reactivity (TAR):

- indicates the capacity to decrease steady state of free radical concentration and is a better index of antioxidant quality. Total phenols is positively correlate to TRAP and TAR.
Laboratory Research Shows That Anthocyanins:

- Reduce the coagulation of blood platelets, inhibiting formation of blood clots involved in stroke, pulmonary embolism, peripheral vascular disease and heart attack
- Promote higher levels of “good” cholesterol, HDL
- Inhibit oxidation of “bad” cholesterol, LDL
- Neutralize oxygen radicals
- Down-regulate enzymes leading to inflammatory reactions that cause pain and stimulate other diseases
Delphinol Research at Universidad Austral de Chile
directed by Drs Burgos and Hancke

- Supports healthy blood sugar levels
- Anti-inflammatory
- Boosts immune system
- Neutralize enzymes that destroy connective tissue, prevents oxidants from damaging connective tissue, and repair damaged proteins in the blood-vessel walls.
- Lightens allergic reactions and increase capillary permeability.
- Promotes cardiovascular health by preventing oxidation of low-density lipoproteins (LDL), and protecting blood vessels wall from oxidative damage.
- Maintain small blood vessel integrity by stabilizing capillary walls.
- May improve eyesight
Delphinol Extract and Anthocyanins

The research team at Universidad Austral de Chile, have proven the exceptional properties of maqui, revealing their chemical origin and identifying other properties which were not known to the Mapuches.

It has a standardized content of anthocyanin (35.4%) and an astonishing level of delphinidins (28.6%), the highest among all food ingredients which are currently available.

<table>
<thead>
<tr>
<th>Anthocyanin Content</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delphinidin-3-O-samb 5-O-gluc</td>
<td>6.38</td>
</tr>
<tr>
<td>Delphinidin 3,5-O-diglucos</td>
<td>13.64</td>
</tr>
<tr>
<td>Cyanidin-3-O-samb-5-O-gluc</td>
<td>3.36</td>
</tr>
<tr>
<td>Cyanidin-3,5-O-diglucos</td>
<td>1.58</td>
</tr>
<tr>
<td>Delphinidn-3-O-sambubloside</td>
<td>1.67</td>
</tr>
<tr>
<td>Delphinidin-3-O-glucoside</td>
<td>6.95</td>
</tr>
<tr>
<td>Cyanidin-3-O-sambubloside</td>
<td>0.79</td>
</tr>
<tr>
<td>Cyanidin-3-O-glucoside</td>
<td>1.05</td>
</tr>
<tr>
<td><strong>TOTAL DELPHINIDINS</strong></td>
<td><strong>28.64</strong></td>
</tr>
<tr>
<td><strong>TOTAL ANTHOCYANINS</strong></td>
<td><strong>35.40</strong></td>
</tr>
</tbody>
</table>

Source: Indena SpA, Italy
Delphinidin

**Delphinol® extract has the highest delphinidin content among similar products on the market.**

Delphinidin content in selected “superfruits” and extracts
Source: http://www.blueberry.org

<table>
<thead>
<tr>
<th></th>
<th>Content (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superberry</td>
<td></td>
</tr>
<tr>
<td>Delphinol</td>
<td>28.6</td>
</tr>
<tr>
<td>Blackcurrant Frozen Fruit</td>
<td>2.9</td>
</tr>
<tr>
<td>Black chokeberry Frozen Fruit</td>
<td>3.0</td>
</tr>
<tr>
<td>Bilberry Frozen Fruit</td>
<td>1.7</td>
</tr>
<tr>
<td>Maqui Frozen Fruit</td>
<td>7.8</td>
</tr>
</tbody>
</table>

The research team in Chile made this important discovery on the ability of delphinidins present in Delphinol® to stimulate the immune system.

Delphinidins are a type of anthocyanin, a vegetable pigment responsible for the blue and red colors of certain kinds of grapes, blueberries and pomegranates.

Research carried out by Delphinol has demonstrated that delphinidins elevate the liberation of intracellular calcium in Jurkat cells, which may activate the production of cytokines such as IL-2 and IFN-gamma in this cellular line and in human T lymphocytes.

Since cytokine production in T lymphocytes is activated through the NFAT transcription factor, and production of IL-2, induced by the delphinidins, is significantly reduced by the cyclosporin A (CsA) calcineurin inhibitor, it is evident that delphinidins have the ability to activate NFAT. All of these effects result in strengthening the cells of the immune system.
Delphinol® has a potent antioxidant against the five most important radicals:

<table>
<thead>
<tr>
<th>Radical</th>
<th>Valor (umole TE / 100 gram)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peroxyl radicals</td>
<td>461,100</td>
</tr>
<tr>
<td>Hydroxyl radicals</td>
<td>1,437,200</td>
</tr>
<tr>
<td>Peroxynitrite</td>
<td>83,500</td>
</tr>
<tr>
<td>Superoxide anion</td>
<td>569,900</td>
</tr>
<tr>
<td>Singlet oxygen</td>
<td>124,500</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>2,676,200</strong></td>
</tr>
</tbody>
</table>

Anti-oxidant capacity of Delphinol against 5 radicals
Source: Brunswick Laboratories, 2010

Potent Antioxidant against the five most important radicals:
Peroxyls, hydroxyls, peroxynitrates, superoxide anions and other oxygen-based free radicals. Delphinol®:

- boosts the immune system
- helps to healthy inflammatory response
- helps control blood sugar and cholesterol levels
- helps prevent oxidation and related damage

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Safety data

Maqui Berry

- **Toxicology Studies** completed at Chilean Universities studies prove Maqui to be safe.

- **According to regulations imposed by MERCOSUR,** Maqui is registered as a condiment of botanical origin. It is used as a fruit or for its properties as an aromatizer or flavoring and consequently there are no restrictions regarding those plant parts which are used in normal consumption.
Benefits of Maqui Berries:

- Anti-inflammatory
- Natural COX-2 Inhibitor
- Protect cells from oxidative stress
- Fight free radicals
- Anti-aging
- Cardiovascular health

Good source of Vitamin C and Potassium.
It contains the highest ORAC value of any known berry.
It also contains high level of polyphenols and anthocyanins.
The juice concentrate has an ORAC value of >800,000 μmole TE/kg and anthocyanin value of 22,420mg/kg.

Exhibits strong anti-inflammatory activity.
Effectively inhibits the NFkappaB, the key regulator of our immune and inflammatory system.
At effective dose, Maqui completely erases the COX-2 enzyme and reduces other cytokines that causes pain and inflammation.
In vitro cancer study with human leukemia cells and colon cancer cells confirmed maqui’s traditional usage for treating cancer and tumor.
Inflammation plays a major role in the development of most diseases.

- Cancer
- Cardiovascular diseases
- Neurological diseases
- Autoimmune diseases
- Arthritis
- Diabetes II
- Alzheimer
Inflammation has been linked to several diseases

Heart failure

Cancer

Chronic obstructive pulmonary diseases

Ischemia/Reperfusion

Cardiac hypertrophy

Atherosclerosis

Multiple sclerosis

Muscular dystrophy

Alzheimer’s disease

Bone resorption

Renal disease

Incontinentia pigmenti

Ectodermal dysplasia

Crohn’s disease

Neuropathological disease

Helicobacter pylori-associated gastritis

Systematic inflammatory response syndrome

Arthritis

AIDS

Asthma

Headache

Diabetes type 1 and II

Aging

Lupus

Sepsis

Gut disease

Skin disease

Viral infections

Sleep apnoea
Cancers linked to constitutive activation of NF-κB

Tobacco-linked cancers

NF-κB

Viral cancers
- Acute lymphoblastic leukemia
- Cervical cancer
- Nasopharyngeal carcinoma

UV light
- Melanoma

Carcinogens

Acute Myelogenous leukemia
Hodgkin’s disease
Non-Hodgkin’s lymphoma
B cell lymphoma
Adult T cell leukemia
T cell lymphoma
Mantle cell lymphoma
Multiple myeloma

Esophageal cancer
Laryngeal cancer
Pharyngeal cancer
Pancreatic cancer
Renal carcinoma
Colon cancer
Head and neck SCC
Lung cancer
Bladder cancer
Preliminary research results in the area cancer

- **Chronic inflammatory processes** are an important factor in the formation of intestinal tumors. It is known that the transcriptional factor NF-κB is a central factor in the development of inflammation and colon cancer.

- **NF-κB-luc**, Preliminary results suggest that *Maqui* has an inhibitory effect on the reporter gen NF-κB-luc in HL-60 cells indicating that the product might represent an alternative for the treatment for colon cancer via antinflammatory mechanism of action (patent pending).

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Benefits of Anthocyanins:

- **Anthocyanins are produced by plants for self-protection against, sun, irradiation, diseases, and biological enemies.** With the harsh cold weather in central and southern Chile, and with high solar radiation in Chile, these factors guaranteed high anthocyanins in the fruits and berries that are grown in that region. Anthocyanins are antioxidant flavonoids that protect many body systems and have some of the strongest physiological effects of any plant compounds.
Maqui Berry scores the highest in ORAC, Anthocyanins and Total Phenols

<table>
<thead>
<tr>
<th>Fruit</th>
<th>ORAC hydro (umole/100g)</th>
<th>Anthocyanins (mg/100g)</th>
<th>Total Phenols (mg/100g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Wine</td>
<td></td>
<td>24-35</td>
<td>600</td>
</tr>
<tr>
<td>Red Grape</td>
<td></td>
<td>30-750</td>
<td></td>
</tr>
<tr>
<td>Strawberry</td>
<td>2600</td>
<td>350-400</td>
<td>1500</td>
</tr>
<tr>
<td>Boysenberry</td>
<td>3500</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>Cherry</td>
<td>2100-4700</td>
<td>350-400</td>
<td>1500</td>
</tr>
<tr>
<td>Blackberry</td>
<td>5100</td>
<td>82-325</td>
<td>3000</td>
</tr>
<tr>
<td>Cranberry</td>
<td>5200</td>
<td>50-80</td>
<td>1000</td>
</tr>
<tr>
<td>Red Raspberry</td>
<td>2700-5300</td>
<td>213-428</td>
<td>1300</td>
</tr>
<tr>
<td>Black Raspberry</td>
<td>5000-16,400</td>
<td>400</td>
<td>1300</td>
</tr>
<tr>
<td>Blueberry</td>
<td>3200-8700</td>
<td>25-495</td>
<td></td>
</tr>
<tr>
<td>Bilberry</td>
<td>8186</td>
<td>300-648</td>
<td>400</td>
</tr>
<tr>
<td>Mangosteen</td>
<td>20,000-30,000</td>
<td>195</td>
<td>1500</td>
</tr>
<tr>
<td>Acai</td>
<td>18,400-31,000</td>
<td>319</td>
<td></td>
</tr>
<tr>
<td>Maqui Juice</td>
<td>40,000-80,000</td>
<td>800-2200</td>
<td>4000-5000</td>
</tr>
<tr>
<td>Maqui Concentrated Powder</td>
<td>75,000-92,000</td>
<td>4027-5000</td>
<td>7000-9000</td>
</tr>
</tbody>
</table>
Review of Maqui’s Benefits

- **Highest natural ORAC value**
- **Highest anthocyanins** (from plants,)
- **Highest Polyphenols** (plays a role in the prevention of degenerative diseases) of any known fruit or berry including acai, mangosteen, amalaki and pomegranate
- **Anti-inflammatory** effects by inhibiting the expression of COX-2, (also modulates NFkappaB) which plays a role in inflammation
- **Antimicrobial** (kills or inhibits the growth of bacteria, fungi or viruses)
- **Analgesic** / pain relieving properties
- **Thermogenic properties** / raises core body temperature
- Prohibits LDL oxidation
- **Anti-atherogenic** / Helps manage healthy cholesterol & triglyceride levels
- **Stimulates PPAR receptors** / regulates cell development
## Delphinol™ Extract

<table>
<thead>
<tr>
<th>Name</th>
<th>MAQUI Select</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td>INDENA, Milan, Italy</td>
</tr>
<tr>
<td>Short Description</td>
<td>Standardized dried extract topping 28 % total “delphinidins”</td>
</tr>
<tr>
<td>Medical Significance</td>
<td>Prevention of cancer and tumor formation.</td>
</tr>
<tr>
<td></td>
<td>•Apoptosis Inductor</td>
</tr>
</tbody>
</table>
**Maqui Research at Universidad Austral de Chile**

- **Anti-inflammatory**

  Chronic inflammatory processes are an important factor in the formation of intestinal tumors. It is known that the transcriptional factor NF-κB is a central factor in the development of inflammation and colon cancer.

  Preliminary results suggest that *Maqui* has an inhibitory effect on the reporter gen NF-κB-luc in HL-60 cells indicating that the product might represent an alternative for the treatment for colon cancer via anti-inflammatory mechanism of action.

- **Immunostimulant**

  Effect of delphinidin in human t cells.
Join Geoff on a trip to Southern Chile and an Exploration of Maqui

See the video of Geoff’s journey as it winds through the South of Chile, exploring the highest anti-oxidant fruit in the world. It traces the discovery of the power of the Maqui fruit from the developing company, to the research at the University of Valdivia and onto the Mapuche Indian hospital where patients can choose treatment at their clinic, from either an MD or a Mapuche shaman. See dramatic shots of a Mapuche Shaman healing ceremony and psychic surgery.

Copy into you browser:

http://video.google.com/videoplay?docid=3744610803884045295#
Bibliography


